

## **South Carolina Career and Technology Centers That Work**

The South Carolina Department of Education, Office of Career and Technology Education is partnering with the Southern Regional Education Board and South Carolina Career and Technology Centers to initiate **South Carolina Career and Technology Centers That Work**. This initiative is designed to accomplish similar goals as *High Schools That Work*, but is specifically designed for Career and Technology Centers that serve high school students.

In a Career and Technology Center environment, more students will recognize that high school with a career/technical concentration matters to their future. In addition, more students will become independent learners able to set future educational and career goals and choose which courses to take in order to achieve those goals. With rising workplace requirements, getting a good, relevant high school education is more important now than ever before for a successful career. Yet, too many students do not graduate from high school. Furthermore, many more who do graduate lack preparation for further study and the recognized credentials needed to get good jobs.

### **The purpose of the Career and Technology Centers That Work school improvement initiative is to:**

- expand students' opportunities to learn a rigorous academic core and a career/technical concentration that is taught in ways that enable students to see the usefulness of what they have been asked to learn.
- create supportive relationships between students and adults. These relationships involve providing students extra help to meet challenging course standards and support to make successful transitions from home high school to technology centers and from high school to postsecondary studies and careers with improved readiness for college and careers.
- work as teacher advisers with parents, students, and home high schools to set goals and to help students take the right courses to complete a program of study that prepares them for postsecondary studies and careers.
- establish common planning time and professional development aligned with school improvement plans that focus on providing quality teaching and learning activities.

**The mission of Career and Technology Centers That Work is to create a culture of high expectations and continuous improvement.**

**To achieve this mission, Career and Technology Centers That Work has several goals:**

1. Increase to 85 percent the percentages of career/technical students who meet the *HSTW* reading, mathematics and science performance goals on a National Assessment of Educational Progress (NAEP).
2. Increase the percentages of career/technical students who perform at the Proficient level to at least 50 percent in reading, mathematics and science, as measured by the NAEP-referenced *HSTW* Assessment.
3. Increase the percentages of technology center graduates who complete a career/technical concentration and enter employment within the field for which they were prepared and who enter postsecondary studies.
4. Increase to 95 percent the percentages of high school students who enter the career and technology center in grade 11 and graduate on time.
5. Advance state and local policies and leadership initiatives that sustain a continuous school improvement effort.
6. Work with middle schools to effectively use EPAS assessments to guide students in creating programs of study that consist of courses that prepare students for high school and technology center courses.
7. Increase annually the percentage of students leaving the career and technology center with postsecondary credit or having met standards for postsecondary studies, so they will avoid remedial courses.
8. Work with the high schools to annually increase the percentage of students entering technology centers prepared and qualified to earn college credit based on PLAN test scores.
9. Increase annually the percentage of technology center high school graduates that pass an improved employers exam (National licensure, state exam/credential, etc. such as ASE).

**Career and Technology Centers That Work has identified a set of Key Practices that impact student achievement. Following are the Key Practices that provide direction and meaning to comprehensive school improvement and student learning:**

- **High expectations** — Motivate more students to meet high expectations by integrating high expectations into classroom practices and giving students frequent feedback.
- **Program of study** — Require each student to complete a plan of study leading them to complete a true concentration in an approved sequence of at least four career/technical courses and an upgraded academic core leading to preparation for postsecondary studies and a career.
- **Academic studies** — Teach more students the essential concepts of the college-preparatory curriculum by encouraging them to apply academic content and skills to real-world problems and projects within their career and technical studies. School leaders need to:
  - Align career/technical courses to essential state, national, academic and career/technical standards that prepare students for postsecondary studies and careers.
  - Align core academic courses to essential state and national standards that prepare youth for post secondary studies and careers.
  - Align student assignments, student work and classroom assessments to college and career-readiness standards, state assessments and employer recognized exams.
- **Career/technical studies** — Provide more students access to intellectually challenging career/technical studies in high-demand fields that emphasize higher-level mathematics, science, literacy and problem-solving skills needed in the workplace and in further education. School leaders need to:
  - Create new courses using authentic projects and applied teaching methods to blend academics and technical content, and new measures for assessing academic and technical achievements.
  - Develop standards, conditions and agreements for awarding postsecondary credit in high-demand career/technical fields to high school students through a dual enrollment option.
  - Require senior projects with academic, technical and performance standards. (Capstone)
  - Provide students opportunities to work toward a recognized employer certification.
- **Work-based learning** — Enable students and their parents to choose from programs that integrate challenging high school career/technical studies and work-based learning and are planned by educators, employers and students.
- **Teachers working together** — Provide teams of teachers from several disciplines the time and support to work together to help students succeed in challenging career/technical and academic studies. Integrate reading, writing and speaking as

strategies for learning into all parts of the curriculum and integrate mathematics and science into career/technical classrooms. School leaders need to support career/technical and academic teachers in engaging students regularly in reading books and articles, writing, making presentations, and using high-level reasoning and thinking skills. Career/technical, mathematics and science teachers working together to better align and integrate mathematics and science concepts and skills into assignments in career/technical classrooms.

- **Students actively engaged** — Engage students in career/technical and academic classrooms in rigorous and challenging Proficient-level assignments using research-based instructional strategies and technology.
- **Guidance** — Involve students and their parents in a guidance and advisement system that develops positive relationships and ensures completion of a career/technical concentration with an approved sequence of at least four courses and an accelerated program of study. Provide each student with the same mentor throughout high school to assist with setting goals, selecting courses, reviewing the student's progress and suggesting appropriate interventions as necessary. School leaders need to:
  - Hold a meeting with students, parents and their mentors annually at a technology center to review progress and develop plans for the next year.
  - Develop efforts to educate middle grades parents, school and teacher leaders, and students about the achievement level needed for challenging high school and career/technical studies and to educate high school parents, students and teachers about the achievement level needed for postsecondary study and high-demand, high-income jobs.
- **Extra help** — Provide a structured system of extra help to assist students in completing accelerated programs of study with high-level academic and technical content. School leaders need to:
  - Support all career/technical students to become independent learners by giving them opportunities to practice the habits of successful learners, such as study and literacy skills, time management and cooperative learning.
  - Give students easy access to opportunities to meet course standards and graduate on time with their peers.
  - Support teachers in forming nurturing relationships with career/technical students aimed at improving students' work and achievement.
  - Establish a system to analyze student progress on technology center standards and provide remediation focused on career/technical skills to ensure students can pass both hands-on performance and written certification exams.
  - Plan catch-up learning experiences for entering technology center students who are not prepared for career/technical and college-preparatory courses.

- Work with postsecondary institutions to identify 11th-grade career/technical students not ready for postsecondary study. Develop special strategies to get these students prepared.
- **Culture of continuous improvement** — Use student assessment, program evaluation data, technology center performance reports, program enrollment, retention and placement reports, college remediation reports, student follow-up reports and advisory committee input to continuously improve school culture, organization, management, curriculum and instruction to advance student learning.
  - Establish a system to analyze student progress on technology center standards and provide remediation focused on career/technical skills to ensure students can pass both hands-on performance and written certification exams
  - Plan catch-up learning experiences for entering technology center students who are not prepared for career/technical and college-preparatory courses.
  - Work with postsecondary institutions to identify 11th-grade career/technical students not ready for postsecondary study. Develop special strategies to get these students prepared.

## **The recommended curriculum**

**The centerpiece of CTCTW and HSTW is a challenging curriculum focused on preparing high school students for further education and the workplace. To complete the recommended curriculum, each student takes the following:**

- at least four English courses, with the content and performance standards of college-preparatory English that emphasize reading, writing and presentation skills. Students read the equivalent of eight books annually, write short papers weekly and write one or more research papers annually. Students revise work until it meets standards.
- at least three credits in mathematics including Algebra I Math for the Technologies I and II), geometry, Algebra II Math for the Technologies III and IV). A fourth higher-level mathematics course or a specially developed mathematics course designed to prepare students for postsecondary studies is strongly recommended. This will help 11th- graders who are unprepared for college-level studies avoid remedial college mathematics. Students completing Algebra I in grade eight will be required to complete three additional years of mathematics. Students take mathematics their senior year. All career/technical courses focus on numeracy and literacy in the language of the technical area.
- at least three college-preparatory science courses — biology or Biology for the Technologies, chemistry or Chemistry for The Technologies, physics or Physics for the Technologies, or anatomy/physiology. Students conduct lab experiments and

investigative studies; read, critique and discuss three to five books or equivalent articles about scientists, scientific discoveries and how science is used in the real world; keep lab notebooks; make presentations; and complete research projects and written reports. Students design and conduct group or individual projects. *HSTW* recommends that schools using block schedules require four years of science.

- at least three college-preparatory social studies courses emphasizing reading and writing to learn. Students will read five to eight books or equivalent articles, write weekly, make presentations, complete research projects, and prepare at least one major research paper in each course.
- at least one computer course or demonstrated proficiency in computer technology beyond simple keyboarding, which students should take early in high school to be prepared to use computer-based technical skills in other classes.
- at least four credits in a concentration that consists of an approved sequence of career/technical courses. Each student will have a choice from at least four career/technical concentrations in career cluster pathways at school sites, work sites, career/technical centers, postsecondary institutions; and a blended concentration, such mathematics/science/technology or humanities and business studies. Each concentration will include one or two Advanced Placement (AP), International Baccalaureate (IB) or dual credit courses

## **Measuring and reporting progress**

The primary tool used for measuring high school and technology center students' levels of achievement and schools' progress is the HSTW Assessment. This test is referenced to NAEP proficiency standards and measures 12th-graders progress in reading, mathematics, science and career/technical fields of study. The results also indicate to schools how they have improved and what areas require greater improvement.

The HSTW Assessment also includes student and teacher surveys. The student survey addresses high school students' experiences, what and how they have been taught and what is expected of them in both career/technical and academic courses. The teacher survey indicates how much time teachers spend working and planning together and what school staff thinks about school culture and the quality of instruction.

HSTW also conducts a follow-up survey of students one year after high school graduation; graduates report on how well high school and the technology center prepared them for postsecondary education and career.

Technical Assistance Visits (TAV) reports provide base-line information, challenges and action steps to help school leaders assess where their schools are in relationship to the Key Practices.

The reports guide school leaders and teachers in prioritizing next steps for implementation of school improvement.



Every technology center site prepares an annual site progress report in the spring to document accomplishments and challenges in their efforts to implement the Key Practices. The annual report is part of a reflection and planning process through which schools note accomplishments from the previous school year and outline improvement priorities for the upcoming year.

### **What participating sites agree to do:**

- ☐ Have site leaders — superintendents, school board members, the campus directors and a core group of teachers and the home high school administrator, counselor or teacher leader — examine the Goals and Key Practices and decide if CTCTW is viable for the school and the community. If so, they commit to at least a five-year implementation effort and require almost all students to take a career/technical concentration and upgraded academic core.
- ☐ Appoint someone at the district level and at the school site to coordinate CTCTW action planning, professional development and technical assistance; coordinate data collection; monitor progress; foster communication; and integrate the Goals and Key Practices with other school improvement efforts.
- ☐ Support career/technical and academic teachers with professional development, materials and time to work together to implement the Key Practices.
- ☐ Promote student participation in a system of school- and work-based learning that integrates academics with career/technical courses.
- ☐ Organize an overall school leadership team composed of key academic and career/technical teachers, home high school administrator or teacher leader and administrators; guidance counselors; parents; and representatives of business, industry and postsecondary education. Establish a team structure where all teachers work in a focused team to address curriculum, guidance, evaluation, professional development, industry-recognized credentials and transitions.
- ☐ Participate in a Site Development Workshop and prepare an action plan that meets the school improvement plan requirements but uses the Key Practices and a site-specific staff development plan to help teachers carry out the action steps.
- ☐ Participate in the biennial HSTW Assessment, teacher survey and follow-up study of career/technical graduates to obtain base-line data and to measure progress in raising student achievement.
- ☐ Host a Technical Assistance Visit (TAV) involving a team led by SREB or the state to review progress made and determine challenges to address to raise student achievement.
- ☐ Participate in district leadership activities, state staff development activities and the annual HSTW Staff Development Conference.

- ☐ Become an active member of a state and multi-state network for sharing information and ideas.



## CONCEPTS OF QUALITY CAREER/TECHNICAL EDUCATION

<b>Old Beliefs</b>		<b>New Beliefs</b>	
Stand-alone programs taught occupational skills for specific jobs.		CTE is part of a total program of academic and technical studies that prepares students for continued learning in work or educational settings.	
Students taught in low-level related academic courses		Students expected to complete high-level academic courses	
All content needed for career taught by a CTE instructor		CTE and academic teachers work as an instructional team	
Programs focused on preparing students for entry-level jobs		Programs focused on preparing students for further learning and a career pathway	
Program success measured by number of students who entered a specific occupation right after high school		Program success measured by number of students who make a successful transition to work, further study or both	
CTE is equated with less able students		CTE is part of the education of many students with a wide range of abilities	
CT educators “accommodate” many students by setting low standards		CT courses have challenging, clearly defined goals that all students are expected to achieve	
CTE is an elective		All students either complete an academic or career major	
Academic educators view CTE as a way to teach occupational skills to students who could not succeed in academic courses		Academic and CT educators work together to help students learn high-level academic and technical concepts	
Emphasis on learning procedural skills and following directions—students dependent on someone else to do the thinking		Emphasis is on helping students become independent learners who can think through problems and find solutions	

Source: A Guide to Preparing a Syllabus: Designing Challenging Vocational Courses, SREB, 1997.



## CTE INSTRUCTIONAL PRACTICES

<b>Old Approach</b>		<b>New Approach</b>	
Instruction focuses on procedural skills		In addition to learning procedural skills, students are given open-ended problems requiring the use of technical, academic, cognitive and personal skills	
CTE teacher handles the majority of the instruction		CTE and academic teachers work together	
Students follow a set of steps to complete assignments		Students are given open-ended assignments that require them to do research and to prepare their own steps for completing them	
Instruction takes place in the classroom or laboratory		Classrooms, laboratories, business and industry, the home and the community are all locations for instruction	
Content is determined by what the instructor likes to teach or the students want to learn		All students must learn a core set of major competencies (knowledge and skills)	
Standards vary according to each student's perceived ability		All students are expected to meet the same high standards	
Assignments do not require students to use academic and thinking skills		The teacher uses activities and problems that require students to integrate and use multiple academic and technical competencies	
The teacher assumes student learning through informal observations or performance and written tests		Assessment is continuous, using a wide variety of techniques that focus on standards	
All assessment is done by the teacher		Students evaluate their own work based on the definition of quality learning that they have developed with their teacher before submitting it for the teacher's review	
Assessments are conducted primarily for assigning grades		The purpose of assessment is to help students and instructors improve, as well as to determine grades based on standards	
Students get one chance to learn the content before they are graded		Students are given multiple opportunities to learn the content. They may be expected to use their own time to meet quality standards	
Students are not expected to work outside of class		Students are expected to work on assigned projects outside of class	

Source: A Guide to Preparing a Syllabus: Designing Challenging Vocational Courses, SREB, 1997.

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**Notice of Intent to Participation in 2008-09**

The undersigned have reviewed the Goals and Key Practices for **South Carolina Career and Technology Centers That Work** and would like to investigate and discuss the potential for participation with these goals and key practices as the basis for implementing school improvement in our Career and Technology Center:

Career and Technology Center: \_\_\_\_\_

School District: \_\_\_\_\_

Center Address: \_\_\_\_\_

City, State, Zip: \_\_\_\_\_

Telephone Number: \_\_\_\_\_ Fax Number: \_\_\_\_\_

**Please Type or Print**

Center Director: \_\_\_\_\_ email: \_\_\_\_\_

District Superintendent: \_\_\_\_\_

District Career/Technical Director: \_\_\_\_\_

**Signatures:**

Center Director: \_\_\_\_\_ Date: \_\_\_\_\_

Superintendent: \_\_\_\_\_ Date: \_\_\_\_\_

Return to: **Dr. James R. Couch, Director**

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